

European Standards EN5013 & PD 6662

What are European standards for intruder alarms?

European standards for intruder alarms are new standards being brought in to improve the installation of intruder alarms at every stage of the process. The standards were introduced to the UK on 1st October 2005. Despite the fact that they were introduced in October, the standards are still going through development. This means that the UK will adopt European standards using the scheme document PD 6662:2004 – 'Scheme for the application of European standards for intruder and hold-up alarm systems'. As development of the standards continues, the scheme document will be updated accordingly.

What is EN50131?

EN50131 replaces Old British Standards documents BS4737, BS7042 & BS6799 which cover the installation of Intruder Alarm Systems, which were withdrawn on 1st October 2005. The most recent Version of EN50131 specifies general requirements for Intruder and Hold-up Alarm Systems

What is PD6662?

PD 6662:2004 "Scheme for the application of European Standards for intruder and hold-up alarm systems" is the title of the document which enables the UK security industry to introduce European standards for alarm systems and components. It is a requirement that we withdraw the British Standard when an equivalent European Standard is published. However, there were important parts of the old BS4737 which it was necessary to retain, and PD 6662 incorporates these, as well as setting out how the European standard should be applied. The publication of PD 6662:2004 is intended to enable the published European Standards and draft standards to be introduced in a controlled and consistent way across the industry. PD 6662 is necessary because not all the standards in the European series of standards for intruder alarm systems have been published. PD 6662 is used to fill in the gaps by calling up British Standards when the European equivalent has yet to be published. From the date of its introduction, SSAIB and other certification bodies will be inspecting and assessing firms and systems against the contents of the PD6662:2004 scheme document and the standards it calls up. Adopting EN50131 in the UK is only possible by complying with PD6662:2004. PD is short for 'Published Document' which means that it is not a British Standard, but is an 'enabling document'. It contains specific UK requirements, which permits the UK to comply with the European Standards, in circumstances where UK accepted practices differ from the EN Standards.

Why are the standards being implemented?

The security industry is constantly pursuing the desire to raise standards, to make equipment more reliable and to improve customer satisfaction. These standards will put a structured framework on ensuring an installation is fit for purpose. The new systems will provide more facilities and flexibility and should ensure better security for our customers.

What does this mean for the you?

It is clear that the you will benefit greatly from the introduction of the new standards. The design, manufacturing and installation processes will all have been improved to bring greater service, reliability and efficiency from intruder alarms. You should not notice many changes in the process of buying an intruder alarm. You are advised to contact your insurer to find out which grade of system their premises requires.

How does EN50131 differ from British Standards ?

EN50131 differs to current British Standards, in that:

- It applies to both hard-wired and wire-free systems.
- It requires a comprehensive '**Risk Assessment**' to determine system design criteria.
- It determines not only System (EN50131-1) requirements, but also individual Detector (EN50131-2) requirements for Intruder and Hold-up Alarm Systems.

What is 'Risk Assessment' ?

Systems are required to be 'Graded' to reflect the risk. A comprehensive Risk Assessment must be carried out by an approved security system installer, and then stored securely for future reference. This is needed to demonstrate that the system has been designed in accordance with the level of risk determined, as specified under the new EN standards.

What are the 'EN Grades' within EN50131 ?

Where a System could previously be defined simply as a 'BS4737 Intruder Alarm System' it must now be defined as an EN50131 System - Grade 1, 2, 3 or 4.

- Grade 1 is Low Risk
- Grade 2X is Low to Medium Risk (without Signalling)
- Grade 2 is Low to Medium Risk (with Signalling)
- Grade 3 is Medium to High Risk
- Grade 4 is High Risk

Security Systems must therefore be specified and graded according to the risk, as part of the 'Risk Assessment'. This must take account not only of what may be stolen or the location and construction of the building, but also must reflect the ability of potential intruders to bypass the technology installed.

How do the EN Grades differ ?

Grade 1

Systems classified as Grade 1 would be most at risk from "Opportunist" thieves. Intruders would have little knowledge of Intruder Alarm Systems, and would be restricted to a limited range of easily available hand tools, such as hammers, chisels, screwdrivers, pliers etc.

This Grade would typically be used for most domestic 'Bells Only' Systems.

This grade is a lower standard than BS 4737.

Grade 2

Systems classified as Grade 2 are likely to be targeted by criminals who will have prepared themselves prior to a crime and will know something about the contents of a building. Intruders would have limited knowledge of Intruder Alarm Systems, and would have the use of a general range of tools and portable instruments such as multimeters, bolt cutters, battery drills etc. This grade would normally account for large residential and small commercial Systems such as Florists, Bakers, Salons and Carpet Retailers. Grade 2 is the closest to BS 4737.

An option has also been created for lower risk Grade 2 systems, which are not monitored.

These are classified as Grade 2X.

Grade 3

Systems classified as Grade 3 are likely to be required where a buildings contents are perceived to be high value, and criminals are likely to spend time planning an intrusion. Intruders would be conversant with Intruder Alarm Systems and have a comprehensive range of tools and portable electronic equipment, such as oscilloscopes, laptops, security screwdrivers etc. Typically this grade would account for most commercial systems such as bonded warehouses, motor garages, computer distributors, mobile phone shops, sports shops etc.

Grade 4

Systems classified as Grade 4 will apply where security takes precedence over all other factors. Intruders are expected to have the ability or resource to plan an intrusion in detail and have access to a full range of tools and equipment. This would include the means to substitute vital components in the Intruder Alarm System. Typically this grade accounts for security systems that could be applied to military installations, bullion and cash centres, government research establishments etc. In these circumstances there is a high risk of organised crime or terrorism.

What are 'EN Classes' ?

There are 4 'Environmental Classifications' for Components to determine where they can be installed.

Each Security System component is given an individual 'Environmental Classification' by the Manufacturer.

Classes are ;

- Class I Indoor (Temperature well maintained)
- Class II Indoor - General (Temperature not well maintained)
- Class III Outdoor - Sheltered (Not fully exposed to weather)
- Class IV Outdoor - General (Fully exposed to weather)

Class 1 applies to components installed indoors.

This is restricted to residential or office environments, where the temperature is well maintained.

Class 2 also applies to components installed indoors.

This includes harsher environments such as shops, restaurants, storage areas etc. where the temperature is not well maintained

Class 3 applies to components installed outdoors.

This would be where there is some degree of shelter from weather.

Class 4 also applies to components installed outdoors

This includes harsher unsheltered environments, with full exposure to weather.

Access Levels

EN 50131 introduces the new concept of 'Access levels' for Intruder Alarm Systems.

This should not be confused with 'User Authorities'.

There are 4 Access Levels which determine who can operate the system.

Level 4 is optional.

- Access Level 1 - The General Public (limited to viewing status)

- Access Level 2 - Customers (System Users)
- Access Level 3 - Engineer (Alarm Company), but only with Access Level 2 (Customer)

permission. This also applies to Remote connections.

- Access Level 4 - Manufacturers, but only with with Access Level 2 (Customer) and

Access Level 3 (Alarm Company) permission. Access Level 4 is optional. Customers may still have conventional 'User Authorities' such as Cleaner, Operator, Manager and Master. The 'Authority' which users have, becomes more restricted the higher the Grade of the system especially for Restoring Options following an activation, and changing PIN Codes.

Resetting

- Intruder and Hold-up Alarms - can be Reset by Level 2 or 3 User on all Grades.
- Tamper - can be Reset by Level 2 or 3 on Grades 1&2, but Level 3 (Engineer) Reset only on Grades 3&4.
- Mains Failure - can be Reset by an Access Level 2 User, on all Grades.
- Fault (other than Mains Failure) - can be Reset by Access Level 2 or 3 on all grades

Except Grade 4 which requires a Level 3 (Engineer) Reset.

An Engineer Reset can still be performed via a 'Managed Reset'.

Entry & Exit Routes (DD243:2004 Compliance)

The arrangement of Entry and Exit routes should be in accordance with DD243:2004.

When Setting or Unsetting is carried out in two stages, the distance between the two points should be as short as possible e.g. Initiation on Control unit or keypad, and completion at final door. Detectors on the Entry / Exit route(s) which are activated during Setting and Unsetting should not create an alarm.

Setting

- Setting may be initiated within the supervised premises and completed outside.
- The entire Setting procedure may be completed outside using suitable PACE.
- Although Timed Setting is permitted under EN50131, it is not permitted by DD243:2004. Timed Setting should therefore not be used if conformance to both prEN50131-1:2004 and DD243:2004 is required.
- Audible or Visible Indication of initiation and completion should be given.

Unsetting

- Unsetting may be initiated outside the supervised premises, and completed inside.
- The entire Unsetting procedure may be completed outside the protected area using suitable PACE.
- If Unsetting is completed inside the supervised area, then the CIE should be sited adjacent to the final exit point, and out of view of unauthorised persons.
- Completion of Unsetting should require a 'single deliberate action' by the User to Unset. This allows confirmation to be notified, if 2 Circuits (non ER) activate following an Entry Alarm.
- The Unsetting procedure must be completed within a maximum time of 45 seconds. Consideration should therefore be given to the location of equipment, to enable the user to Unset the system.

- The Entry Warning period (upon Entry Timer expiry) is now fixed at 30 Seconds.
- Audible or Visible Indication of initiation and completion should be given.

Compliant equipment

Manufacturers have been developing equipment compliant with the new standards for several months. Systems will be graded depending on the level of security required for the premises. Manufacturers have developed systems for each grade and have been educating installers on the different functions and capabilities of each system.

Installation changes

Both for installers and their customers, a number of changes will be evident both in the specification and installation stages. A structured risk assessment process should be undertaken before deciding on the appropriate equipment. This may include filling in a 'Location Survey Checklist', which will help installers determine the extent of detection needed, ensuring all areas of significant risk are supervised. It is imperative that the grade of the system is agreed with the customer's insurance company before installation commences, particularly with regard to signalling types and methods of unsetting to be employed as per DD243. Installers will have to make sure that the equipment they are buying from their manufacturer or distributor complies with the new standards. The main practical change for installers is in the programming as engineers must be aware of which functions/signals are required for each grade of system. Installers must also bear in mind when certificating a system that the lowest grade component in any system determines the overall grade of that installation.